

ABSTRACT

The surface treatment apparatus of the present invention comprises a casing partitioned to two chambers, that is, a plasma generating chamber provided with plasma generating electrodes and a substrate processing chamber provided with a substrate supporting table. A plasma vent is formed in the electrode that composes the partition between the chambers. A conductive mesh-shaped sheet is disposed in a direction across the plasma between the plasma vent and a substrate on the substrate supporting table. The sheet, to which a variable bias is applied, captures charged particles in the plasma so that the charged particles can be excluded from the plasma. Therefore a high-quality film can be formed at a high speed while preventing a deterioration of the film due to collisions of charged particles.